

Amendment to the Claims

In the Claims:

Please amend Claims 24, 50-55, 63 68, 72, 82, 85 and 88 as follows:

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24. (Currently Amended) A videoendoscopic surgery trainer for the practice of videoendoscopic surgery techniques, the trainer comprising:

- (a) a housing defining a practice volume;
- (b) a digital video camera disposed within the practice volume, the digital video camera being configured to capture a plurality of frames per second, such that the digital video camera can provide a digital video feed of at least a portion of the practice volume; and
- (c) a support structure comprising an elongate member, the elongate member having a proximal end disposed outside of the practice volume, and a distal end disposed inside the practice volume, the digital video camera being coupled with the distal end of the elongate member, such that manually changing a position of the proximal end of the elongate member results in a change in a position of the digital video camera, the elongate member movably supporting the digital video camera externally of the elongate member.

25. (Original) The videoendoscopic surgery trainer of Claim 24, wherein the support structure comprises a bracket configured to slidably engage the elongate member, such that an amount of the elongate member disposed within the practice volume can be increased and decreased as desired.

26. (Original) The videoendoscopic surgery trainer of Claim 24, wherein the support structure comprises a bracket that enables the elongate member to pan and tilt.

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49. (Previously Presented) The videoendoscopic surgery trainer of Claim 24, wherein the digital video camera is substantially larger than a smallest incision that would be required to insert a laparoscope into a body of a patient.

50. (Currently Amended) A videoendoscopic surgical trainer for practicing videoendoscopic surgical techniques, comprising:

(a) a housing defining a practice volume;

(b) a digital imaging sensor configured to obtain an image of at least a portion of the practice volume and to output a corresponding signal that can be used to generate a video signal to drive a display; ~~and~~

(c) a boom configured to support and position the digital imaging sensor, such that a position of the digital imaging sensor can be changed with the boom to obtain an image of a different portion of the practice volume, the boom having a proximal end disposed outside of the practice volume, and a distal end disposed inside the practice volume, the digital imaging sensor being coupled with the distal end of the boom, such that manually changing a position of the proximal end of the boom results in a change in a position of the digital imaging sensor; and

(d) a support member configured to slidably engage the housing and to positionably support the boom, thereby enabling the digital imaging sensor to be selectively positioned within the practice volume.

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51. (Currently Amended) The videoendoscopic surgical trainer of Claim 50, ~~further comprising a wherein the~~ support member is further configured to slidably engage the boom, such that an extent by which the boom extends within the practice volume is selectively variable by the sliding the boom relative to the support member.

52. (Currently Amended) The videoendoscopic surgical trainer of Claim 51, wherein the boom extends from the support member into the practice volume at a substantially non-normal angle ~~support member can be selectively locked, such that once the boom extends within the practice volume to a desired extent, the lock can be actuated to prevent the extent by which the boom extends within the practice volume from being changed until the lock is released.~~

53. (Currently Amended) The videoendoscopic surgical trainer of Claim 50, ~~further comprising a wherein the~~ support member is configured to enable the digital imaging sensor to be moved in at least one of:

- (a) ~~in~~ a panning motion; and
- (b) ~~in~~ a tilting motion.

54. (Currently Amended) The videoendoscopic surgical trainer of Claim ~~53~~50, ~~further comprising a locking mechanism that is operative to selectively lock the support member in a desired position, such that once the digital imaging sensor is positioned as desired, further movement of the digital imaging sensor is inhibited until the locking mechanism is released wherein said support mechanism comprises:~~

(a) a first adjustable member configured to enable an extent to which the boom extends within the practice volume to be selectively controlled; and

(b) a second adjustable member configured to enable a position of the digital imaging sensor within the practice volume to be selectively changed, without also changing the extent to which the boom extends into the practice volume.

55. (Currently Amended) The videoendoscopic surgical trainer of Claim 50, ~~further comprising a wherein the~~ support member ~~configured to engage the housing, such that comprises a first portion and a second portion, such that the first portion pivotally engages the second portion, thereby enabling a position of the distal end of the boom support member within the practice volume~~ [[is]] to be selectively adjustable.

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1 56. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
2 proximal end of the boom comprises a handle configured to simulate a handle of a generally
3 conventional laparoscope.

4 57. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
5 boom includes a hollow shaft configured to receive electrical leads coupling the digital imaging
6 sensor to at least one of:

7 (a) a display; and

8 (b) a processor configured to generate a signal usable to drive a display.

9 58. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
10 digital imaging sensor is capable of capturing at least thirty frames per second.

11 59. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the
12 digital imaging sensor comprises a web camera.

13 60. (Previously Presented) A videoendoscopic surgical trainer for practicing
14 videoendoscopic surgical techniques, comprising:

15 (a) a housing defining a practice volume; and

16 (b) a digital video camera disposed within the practice volume, the digital video
17 camera producing a digital video signal conveying images of at least a portion of the practice volume,
18 the digital video camera being movable within the practice volume, such that a position of the digital
19 video camera can be changed to obtain an image of a different portion of the practice volume,
20 wherein the digital video camera is substantially larger than a smallest incision that would be required
21 to insert a laparoscope into a body of a patient.

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61. (Previously Presented) A videoendoscopic surgical trainer for practicing videoendoscopic surgical techniques, comprising:

(a) a housing defining a practice volume;

(b) a digital video camera disposed within the practice volume, the digital video camera producing a digital video signal conveying images of at least a portion of the practice volume; and

(c) a support structure, the digital video camera being coupled to and supported by the support structure, the support structure enabling the digital video camera to be movably positioned within the practice volume to change a position of the digital video camera so as to obtain an image of a different portion of the practice volume, the support structure movably supporting the digital video camera without substantially enveloping the digital video camera.

62. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the digital video camera is substantially larger than a smallest incision that would be required to insert a laparoscope into a body of a patient.

63. (Currently Amended) The videoendoscopic surgical trainer of Claim 61, wherein the support structure includes at least one of a ball head that enables the digital video camera to pan[[.]] and tilt, and a pan and tilt head.

64. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the support structure is substantially disposed within the housing.

65. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the support structure comprises an elongate member having a proximal end disposed outside the practice volume and a distal end disposed inside the practice volume, the digital video camera being coupled to the distal end of the elongate member.

66. (Previously Presented) The videoendoscopic surgical trainer of Claim 65, wherein the proximal end of the elongate member comprises a handle configured to simulate a handle of a generally conventional laparoscope.

67. (Previously Presented) The videoendoscopic surgical trainer of Claim 65, further comprising a support member configured to slidably engage the elongate member, such that an extent to which the elongate member extends within the practice volume is selectively variable.

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68. (Currently Amended) The videoendoscopic surgical trainer of Claim 67, [[.]] wherein the support member can be selectively locked, such that once the elongate member extends within the practice volume to a desired extent, its position is locked to prevent a change in the extent by which the elongate member extends within the practice volume.

69. (Previously Presented) The videoendoscopic surgical trainer of Claim 65, further comprising a mounting bracket, the mounting bracket being configured to enable a position of the distal end of the elongate member within the practice volume to be selectively adjustable by pivotally engaging one of:

- (a) the elongate member; and
- (b) the housing.

70. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the housing comprises a replaceable top panel.

71. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the digital video camera comprises a web camera.

72. (Currently Amended) A videoendoscopic surgical training system for practicing videoendoscopic surgical techniques, comprising:

- (a) a housing defining a practice volume;
- (b) a digital image sensor disposed within the practice volume, the digital image sensor producing a digital video signal conveying images of at least a portion of the practice volume, wherein the digital image sensor is not a laparoscope;

- (c) a boom configured to support and position the digital image sensor, such that a position of the digital image sensor can be changed to obtain an image of a different portion of the practice volume, the boom having a proximal end disposed outside of the practice volume, and a distal end disposed inside the practice volume, the digital image sensor being coupled with the distal end of the boom, such that manually changing a position of the proximal end of the boom results in a change in a position of the digital image sensor;

- (d) a signal processor configured to receive and process the digital video signal from the digital image sensor, to provide a display video signal that conveys the images, the signal processor being disposed external to the housing; and

- (e) a display for displaying the images conveyed by the display video signal.

73. (Previously Presented) The videoendoscopic surgical training system of Claim 72, further comprising a support member configured to movably support the boom, the support member facilitating at least one of:

- (a) changing an extent by which the boom extends within the practice volume;
- (b) moving the digital image sensor in a tilting motion; and
- (c) moving the digital image sensor in a panning motion.

74. (Previously Presented) The videoendoscopic surgical training system of Claim 73, wherein the support member can be selectively locked, such that once the digital image sensor is positioned as desired, further movement of the digital image sensor is inhibited until the support member is selectively unlocked.

75. (Previously Presented) A videoendoscopic surgical training system for practicing videoendoscopic surgical techniques, comprising:

- (a) a housing defining a practice volume;
- (b) a digital image sensor disposed within the practice volume, the digital image sensor producing a digital video signal conveying images of at least a portion of the practice volume;
- (c) a support structure configured to support and position the digital image sensor, such that a position of the digital image sensor can be changed to obtain an image of a different portion of the practice volume, the support structure movably supporting the digital image sensor so that the digital image sensor is substantially external to the support structure;
- (d) a signal processor configured to receive and process the digital video signal from the digital image sensor to provide a display video signal that conveys the images; and
- (e) a display for displaying the images conveyed by the display video signal.

76. (Previously Presented) The videoendoscopic surgical training system of Claim 75, wherein the digital image sensor is substantially larger than a smallest incision that would be required to insert a laparoscope into a body of a patient.

77. (Previously Presented) The videoendoscopic surgical training system of Claim 75, wherein the support structure comprises a boom, the boom having a proximal end disposed outside of the practice volume and a distal end disposed inside the practice volume, the digital image sensor being coupled to the distal end of the boom, such that manipulating the proximal end of the boom changes the position of the digital image sensor.

78. (Previously Presented) The videoendoscopic surgical training system of Claim 75, further comprising a non volatile memory medium electrically coupled with the digital image sensor and configured to store the digital video signal for later use.

79. (Previously Presented) The videoendoscopic surgical training system of Claim 75, wherein the signal processor comprises a computing device having a storage medium used to store the digital video signal for later display.

80. (Previously Presented) The videoendoscopic surgical training system of Claim 75 wherein the signal processor comprises a computing device, the computing device comprising:

(a) a processor; and

(b) a memory in communication with the processor, said memory storing machine instructions that cause the processor to carry out a plurality of functions, including:

(i) storing the digital video signal in a non volatile memory;

(ii) processing the digital video signal to produce the display video signal;

and

(iii) transmitting data conveyed by at least one of the digital video signal and the display video signal to another computing device using a network connection.

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81. (Previously Presented) A method for simulating an internal imaging of an endoscopic procedure, comprising the steps of:

(a) providing a surgical trainer that defines a practice volume in which a simulated endoscopic procedure can be performed upon at least one exercise object;

(b) producing a signal conveying images of the at least one exercise object from a first position within the surgical trainer;

(c) displaying the images of the at least one exercise object conveyed by the signal in regard to the first position;

(d) manipulating a support structure that movably supports a digital imaging sensor substantially external to the support structure, the digital imaging sensor being positioned by manually changing a position of the support structure so that the digital imaging sensor produces a signal conveying images of the at least one exercise object from a second position within the surgical trainer; and

(e) displaying the images of the at least one exercise object conveyed by the signal, in regard to the second position.

82. (Currently Amended) The method of Claim 81, further comprising the step of converting each signal to a display video signal, such that one of an analog display, and a digital display is driven by the display video signal, to display the images of the at least one exercise object.

83. (Previously Presented) The method of Claim 81, further comprising the step of reflecting an image of at least one exercise object toward the digital imaging sensor.

84. (Previously Presented) The method of Claim 81, wherein the step of manipulating the support structure further comprises the step of locking the support structure once the digital imaging sensor is positioned to produce the signal conveying images of the at least one exercise object from the second position, to inhibit undesired movement of the digital imaging sensor.

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85. (Currently Amended) The method of Claim 81, wherein the step of manipulating the support structure comprises at least one of the steps of:

(a) tilting the digital imaging sensor to move the digital imaging sensor from the first position to the second position;

(b) panning the digital imaging sensor to move the digital imaging sensor from the first position to the second position;

(c) zooming the digital imaging sensor closer to the at least one exercise object, to move the digital imaging sensor from the first position to the second position; and

(d) zooming the digital imaging sensor away from the at least one exercise object, to move the digital imaging sensor from the first position to the second position.

86. (Previously Presented) The method of Claim 81, further comprising the step of storing a signal corresponding to images of the at least one exercise object collected by the digital imaging sensor from at least one of the first and second positions.

87. (Previously Presented) The method of Claim 81, further comprising the step of transmitting a signal over a network, the signal corresponding to images of the at least one exercise object collected by the digital imaging sensor from at least one of the first and second positions.

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1 88. (Currently Amended) A method for using an imaging device to enhance a session of
2 endoscopic skills training, comprising the steps of:

3 (a) introducing at least one exercise object into a practice volume of a surgical
4 trainer;

5 (b) using the imaging device to produce a signal conveying images of the at least
6 one exercise object from a first position within the surgical trainer, wherein the imaging device is
7 substantially larger than a distal end of a conventional laparoscope, such that the imaging device is
8 too large to pass through an incision used to introduce such a conventional laparoscope into a patient;

9 (c) displaying the images of the at least one exercise object conveyed by the signal
10 in regard to the first position;

11 (d) manipulating a boom that movably supports the imaging device at a distal end
12 of the boom, so that the imaging device produces a signal conveying images of the at least one
13 exercise object from a second position within the surgical trainer; and

14 (e) displaying the images of the at least one exercise object conveyed by the signal
15 in regard to the second position.

16 89. (Previously Presented) The method of Claim 88, wherein the step of manipulating the
17 boom further comprises the step of locking the boom once the imaging device is positioned to
18 produce the signal conveying images of the simulated anatomical structure from the second position,
19 to prevent undesired further movement of the imaging device.

20 90. (Previously Presented) The method of Claim 88, further comprising the step of
21 transmitting data over a network that can be used to display images collected by the imaging device.

22 91. (Previously Presented) The method of Claim 88, further comprising the step of storing
23 data that are usable to display images collected by the imaging device after the session is complete.

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1 92. (Previously Presented) The method of Claim 88, wherein the step of manipulating the
2 boom further comprises at least one of the steps of:

3 (a) zooming the imaging device closer to the at least one exercise object, to move
4 the imaging device from the first position to the second position;

5 (b) zooming the imaging device farther from the at least one exercise object, to
6 move the imaging device from the first position to the second position;

7 (c) panning the imaging device to move the imaging device from the first position
8 to the second position; and

9 (d) tilting the imaging device to move the imaging device from the first position to
10 the second position.